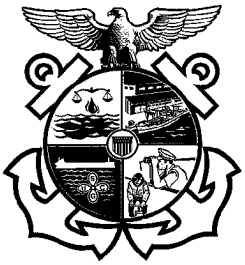
United States Coast Guard



BARGE INSPECTION BOOK

Name of Vessel		
Official Number	**Class**	
Date Completed	**Location**	
Route		
Oceans	Limited Coastwise	Lakes / Bays / Sounds
Coastwise	Great Lakes	Rivers
Inspection Type		
Inspection for Certification (COI)	Reinspection	
Drydock Inspection	Underwater Survey in Lieu of Drydock (UWILD)	
Internal Structural Examination (ISE)	Cargo Tank Internal Examination (CTIE)	
Inspectors		
1. _____	**2.** _____	

CG-840 B
Rev. 1/99

Total Time Spent Per Activity:

Regular Personnel (Active Duty)			
ACTIVITY TYPE	ACTIVITY	TRAINING	(PERS) MI

TOTAL ADMIN HOURS	TOTAL TRAVEL HOURS

Reserve Personnel			
ACTIVITY TYPE	ACTIVITY	TRAINING	(PERS) MI

TOTAL ADMIN HOURS	TOTAL TRAVEL HOURS

Auxiliary Resources	
TOTAL BOAT HOURS	TOTAL AIRCRAFT HOURS

Use of Barge Inspection Book:

This inspection book is intended to be used as a job aid by Coast Guard marine inspectors during inspections of U.S. flagged barges. The lists contained within this book are not intended to limit the inspection. Each marine inspector should determine the depth of inspection necessary. A checked box should be a running record of what has been inspected. It does not imply that the entire system has been inspected or that all or any items are in full compliance. This job aid does not constitute part of the official inspection record.

This document does not establish or change Federal laws or regulations. References given are only general guides. Refer to IMO publications, CFR's, NVIC's or any locally produced cite guides for specific regulatory references. Not all items in this book are applicable to all vessels.

NOTE: *Guidance on how to conduct inspections of U.S. flagged barges can be found in the Marine Safety Manual (MSM) Volume II, Chapter 6: Inspection of Vessels for Certification. All MSM cites listed in this book refer to MSM Volume II unless otherwise indicated.*

Pre-inspection Items:

- Review MSIS records.
  - MIPIP
  - MICOI
- Obtain copies of forms to be issued.

Post-inspection Items:

- Issue letters/certificates to vessel.
- Complete MSIS entries.
  - MIAR
  - MSDS
  - MIDR
  - VFLD
  - VFID
- Initiate Report of Violation (ROV) if necessary.

Table of Contents:

Section 1: Administrative Items

IMO Applicability Dates:

Reference	Date
MARPOL 73/78 Annex I MARPOL 73/78 Annex II MARPOL 73/78 Annex III MARPOL 73/78 Annex V	02 OCT 83 06 APR 87 01 JUL 92 31 DEC 88
IBC Code BCH Code	After 01 JUL 86 Prior to 01 JUL 86
COLREGS 1972 *Various additional amendments to COLREGS*	15 JUL 77
Load Line 1966	21 JUL 68

Involved Parties & General Information:

Vessel's Representatives _____ _____
Phone Numbers

Owner—Listed on DOC (if applicable), or COFR
No Change

Operator
No Change

Vessel Information:

Classification Society		
Last Drydocking Date	Next Drydocking Date	
Location of Last Drydocking		
Gross Tons		No Change (VFMD)
Net Tons		No Change (VFMD)
Built Date (use delivery date)		No Change (VFCD)
Overall Length (in feet)		No Change (VFMD)
Does vessel meet double-hull requirements? Yes No If not, vessel must meet requirements by _____ (date) in accordance with 33 CFR Part 157 Appendix G.		
Required Crew Number of Tankermen Required _____	Number of Lifeboatmen Required _____	
Cargo Carried (inspected and approved) Type of Cargo _____	Amount of Cargo _____	
Date Cargo Tanks Entered		

Vessel Description:

Subchapter D cargoes only

Subchapter I cargoes only

Subchapter D & O cargoes

Subchapter I & O cargoes

Hull Type:

Type I

Type II

Type III

Section 2: Certificates and Documents

Name of Certificate	Issuing Agency	ID #	Port Issued	Issue Date	Exp. Date	Endors. Date
Certificate of Documentation No Change	USCG					
Classification Document No Change						
Certificate of Financial Responsibility (COFR) No Change	USCG					
International Load Line (ILL) No Change						
International Oil Pollution Prevention (IOPP) No Change						
Certificate of Fitness (COF) No Change	USCG					
International Tonnage (ITC) No Change						

Certificates and Records:

☐	COI available	
☐	Waste management plan (oceangoing manned barges ≥ 40 feet)	33 CFR 151.57
☐	Annual drug and alcohol program audit (manned barges only)	46 CFR Part 16
☐	Annual liferaft servicing certificates	46 CFR 160.151-57(p)
☐	Cargo Gear Certificate	46 CFR 31.10-16 46 CFR 91.37-75
☐	Information available to master (as required) / person-in-charge • Loading manual • Trim and stability book	46 CFR 31.10-22 46 CFR 97.12-1
☐	Equipment test records • Piping hydrostatic test • Hose hydrostatic test • Relief valves • Gauges	33 CFR 156.170

Pollution Prevention Records:

☐	Oil record book (Required only if barge is equipped to discharge any oil or oily mixture overboard) • Each operation signed by person-in-charge • Book maintained for 3 years	MARPOL Ax. I/20 33 CFR 151.25
☐	Shipboard oil pollution emergency plan • Approved by Coast Guard / class society • Contact numbers correct • Immediate Actions List	MARPOL Ax. I/26.1 33 CFR 151.26

Notes:_____

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☐	Vessel response plan (vessels carrying oil as primary cargo)	33 CFR 155.1030
	• Manned barges	33 CFR 155.1035
	• Unmanned barges	33 CFR 155.1040
☐	Vessel response plan (vessels carrying oil as secondary cargo)	33 CFR 155.1045 33 CFR 155.1030
☐	Transfer procedures	33 CFR 155.720
	• Posted	
	• List of products carried by vessel	
	• Description of transfer system including a line diagram of piping	
	• Number of persons required on duty	
	• Duties by title of each person	
	• Means of communication	
	• Procedures to top off tanks	
	• Procedures to report oil discharges	
	• VCS information	33 CFR 155.750
	• Amendments authorized	
	• Transfer flag and light	
☐	Waiver letters carried	46 CFR 153.10

Notes:_____

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Section 3: Inspection Items

Navigation Equipment:

☐	Navigation lights and signals	72 COLREGS
	• Running lights	
	• Anchor lights	
	• Distress signals and stowage (manned barges)	
	• Anchor ball(s) or shape(s)	

General Health and Safety:

☐	Accommodations	46 CFR 32.40-60 46 CFR 92.20 MSM Ch. 13.C
	• Size	
	• Lighting and wiring	
	• Heating	
	• Ventilation	46 CFR 92.15-15
	• Sanitation	
	• Screens	
	• Insulation	
	• Fire retardant	46 CFR 32.57
☐	Paint, oil and lamp stowage	
	• Closures	
	• Fireproof / metal lined	46 CFR 32.85-1 46 CFR 92.05-10
	• Lighting / electrical	
	• Fire protection	
	• Markings	
☐	Storerooms	
	• Stowage	
	• Fire hazards	
	• Lighting	
☐	Personnel safety hazards throughout vessel	
☐	Warning notices and signals posted	46 CFR 35.30-1 MSM Ch. 10.C.4

Notes:_____

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☐ Benzene monitoring program — 46 CFR 197.570; NVIC 6-92, Change 1
- Record of personal exposure
- Medical records

☐ Combustible gas indicator (manned barges) — 46 CFR 35.30-15; NVIC 12-86

☐ Emergency outfit (for tanks > 15 feet deep) — 46 CFR 35.30-20
- Required equipment
- Condition
- Stowage
- Markings — 46 CFR 32.05-5

☐ Liquefied flammable gas systems for cooking and heating — 46 CFR 61.15-10
- Marking and instructions
- Controls
- Piping
- Cylinders
- Appliances
- Safety devices
- Compartment ventilation
- Evidence of tests

Structural Integrity:

☐ Hull structure (list inaccessible compartments or areas) — 46 CFR 31.10-1; 46 CFR 31.10-15; 46 CFR 91.15-1; 46 CFR 92.01; 46 CFR 42.09; 46 CFR 42.15; ICLL 66 Reg. 1
- Decks
- Shell
- Bulkheads
- Tank tops
- Strength members
- Double bottom
  - Yes
  - No
- Double sides
  - Yes
  - No

Notes:_____

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☐ Hull openings and closures • Hatch covers • Closing devices, gaskets • Light / water test	46 CFR 42.15 MSM Ch. 6.F.5 ICLL 66 Regs. 12 - 23
☐ Deck openings and closures • Closing devices • Gaskets • Light / water test	MSM Ch. 6.F.5 ICLL 66 Regs. 12 - 20
☐ Rakes • Opened Yes No • Evidence of cargo or water	46 CFR 31.10-21(b)
☐ Guards, ladders, rails, and gangways lifelines (including accommodation ladders or pilot ladders)	46 CFR 32.02-10 46 CFR 92.25 46 CFR 42.15-75 ICLL 66 Reg. 25
☐ Cargo gear examined (in absence of Cargo Gear Certificate) • Tested • Records • Safe Working Load markings	46 CFR 31.10-16 46 CFR 91.37
☐ Gas freeing for repairs • Current Gas Chemist Certificate for areas as required • Date _____ • Chemist No. _____	46 CFR 35.01-1 MSM Ch. 5.I NFPA 306
☐ Hull marks • Name • Hailing port • Official number • Net tonnage	46 CFR 67.121 46 CFR 67.123
☐ Draft marks • Legible • Properly sized • Properly spaced	46 CFR 32.05-1 46 CFR 97.40-10

Notes: _____

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☐ Load line marks — 46 CFR 31.25-1, 46 CFR 97.40-15, ICLL 66 Regs. 4 - 9
- Conform to certificate
- Legible

☐ Main deck area
- Extraneous material
- Fire hazards

Cargo Operations:

☐ Cargo tanks — 46 CFR 91.25-37
- Trunks and hatches
- Ullage openings
- Liquid level gauges — 46 CFR 151.15-10, 46 CFR 39.20-3
  - Open
  - Restricted
  - Closed
- Deck penetrations — 46 CFR 32.50-15
- Heating coils
- Internal examination
- Explosion-proof electrical fittings — 46 CFR 111.105
- Overfill device — 33 CFR 155.480

☐ Cargo tank venting — MSM Ch. 10.C.4

Common header system
- P/V valves — 46 CFR 32.20-5
- Flame arrestors — 46 CFR 32.20-10
- Flush and drain connections — 46 CFR 151.15-5

Independent PV valves — 46 CFR 32.55-25
- Flame screen — 46 CFR 32.20-10
- Valve material (dangerous cargoes) — 46 CFR 151.56
  - Zinc, copper alloys, copper, or aluminum
  - Cast or carbon steel
  - Stainless steel

Independent goosenecks — 46 CFR 32.55-25
- Flame screen — 46 CFR 32.20-10
- Closure device

Notes:_____

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☐ Piping and valves	46 CFR 56.04
• Expansion joints	
• Valve controls	46 CFR 32.50-15
• Supports	
• Flanges	
• Containment	33 CFR 155.310
• Materials	46 CFR 151.56
☐ Hoses	46 CFR 32.50-30
• External examination	33 CFR 155.800
• Hydrostatic test	33 CFR 156.170
• Markings	33 CFR 154.500
☐ Cargo pumps and engines	
• Controls and shutdowns	46 CFR 32.50-55
• Relief valves	
• Gauges	46 CFR 32.50-5
• Engine fuel system	
• Spark arrestor	
• Cover	
☐ Pumprooms	46 CFR 32.60-20
• Electrical installation	
• Ventilation	46 CFR 36.20-5
• Bulkhead penetrations	
• Gas-tight boundaries	
• Cofferdams	
• Fire extinguishing	46 CFR 34.05-5

Notes:_____

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☐ Independent tanks, fixed, portable, or marine portable — 46 CFR 98.30

- External examination
- Date of internal examination
- Date of hydrostatic test
- Metal information plate
- Marking and labeling
- Saddles; foundation and stowage
- Piping and valves
- Relief valves
- Lifting fittings
- Securing devices
- Pump and controls
- Cargo hose
- Electrical grounding
- Firefighting requirements
- Authorized cargo

☐ Tanks for liquefied flammable gas or flammable or combustible liquid having lethal characteristics, or dangerous cargoes — 46 CFR 38.01-1

- Markings
- Lagging and fire protection
- Manholes
- Piping
- Fittings
- Gauges
- Valves
- Controls
- Fill and vent
- Foundations and supports

Type of Examination / Test	Date of Examination / Test
Internal Examination	
External Examination (Lagging Removed)	
Safety Valve Test	
Hydrostatic Test	

Notes:_____

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Vapor Control Systems:

☐ Piping — 46 CFR 39.20-1

- Drain lines
- Electrically bonded to hull
- Flange stud
- Vapor connection painted red / yellow / red and labeled vapor in 2-inch black letters

☐ Closed gauging arrangement — 46 CFR 39.20-3

☐ Liquid overfill protection — 46 CFR 39.20-9

High-level and tank overfill alarms

Alarm with automatic shutdown system

Spill valve

Rupture disk

- Intrinsically safe
- Audible and visual alarms
- Operational test

Thermal Fluid Heaters:

☐ Visual inspection — 46 CFR 61.30-15

- Combustion chamber
- Refractory
- Exhaust
- Heat exchanger
- Pumps
- Piping

☐ Test procedures — 46 CFR 63.10-1

Notes:_____

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☐ Operational test — 46 CFR 61.30-20

- Pre-purge
- Ignition sequence
- Combustion controls
- Flame safeguards
- Limit controls — 46 CFR 63.25-5
  - Low fluid level cutout
  - Low flow cutout
  - High temperature cutout
- Post-purge

Ground Tackle:

☐ Anchors — 46 CFR 32.15-15, 46 CFR 96.07

☐ Cable

Material	Size	Length

Lifesaving Equipment:

NOTE: *Exemptions and alternatives for vessels not subject to SOLAS can be found in 46 CFR 199.600.*

☐ General alarms — 46 CFR 32.25, 46 CFR 113.25

- Controls
- Batteries and fuses
- Tested
- Markings
- Bell locations audible

Notes: _____

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☐ Liferafts — 46 CFR 199.261

- Launching instructions posted
- Stowage — MSM Ch. 6.R.3.f
- Annual service dates — 46 CFR 199.190(g)

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- Hydro release service dates — 46 CFR 199.190(h), MSM Ch. 6.R.3.h

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- Weak link
- Float free
- Markings — 46 CFR 32.05-5
- Capacities

☐ Lifefloats and buoyant apparatus — 46 CFR 199.640

- Equipment
- Stowage
- Markings

☐ Sea painter — 46 CFR 199.175(b)(21)

- Secured
- Weak link
- Cleat

☐ Lifebuoys — 46 CFR 199.640, MSM Ch. 6.R.3.i

- Lights
- Lines
- Smoke signals
- Stowage
- Markings

☐ Lifejackets — 46 CFR 199.620, MSM Ch. 6.R.3.m, MSM Ch. 6.R.3.q

- Retro-reflective tape
- Lights
- Whistles
- Work vests
- Stamped passed
- Markings — 46 CFR 32.05-5
- Number of lifejackets rejected by inspector _____

Notes: _____

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☐ Lifejacket stowage — 46 CFR 199.70(b)

- Accessibility
- Required notices and markings — 46 CFR 199.80(c)
- Stowage lockers — 46 CFR 199.70(b)(2)
- Wearing instructions — 46 CFR 199.80(c) 46 CFR 199.217

☐ Immersion suits — 46 CFR 199.610(a) MSM Ch. 6.R.3.n

- Condition
- Retro-reflective material

Fire Protection Equipment:

☐ Fire extinguishers

- Controls, instructions, markings — 46 CFR 34.50-15(a)
- Annually serviced — 46 CFR 95.50-10(a)
- Markings (weight and hydrostatic test date) — NVIC 7-70
- Portable bottles hydrostatically tested (every 5 years) — MSM Ch 18.I.3
- Semiportable bottles hydrostatically tested (every 12 years) — MSM Ch 18.I.4
- Flexible loops tested or replaced (same as bottle) — NVIC 13-86
- Hose and diffuser

Required		On Board	
Number	**Class**	**Number**	**Class**

Notes: _____

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☐ Fixed fire extinguishing systems

46 CFR 34.05-5
46 CFR 95.05-10

CO_2

46 CFR 34.15
46 CFR 95.15
NVIC 8-73
NVIC 6-72, Change 1

- Cylinders weighed annually
- Cylinders hydrostatically tested (every 12 years)
- Controls, instructions, and markings
- Alarms, time delays
- Piping, heads
- Flex loops tested / replaced (10% per year)
- Ventilation stops
- Closures for openings

Sprinklers

46 CFR 34.30
46 CFR 95.30
NFPA-13 (1996)
NVIC 6-72, Change 1

- Pumps
- Pressure tanks
- Piping, heads
- Alarms

Foam

46 CFR 34.17
46 CFR 95.17
NVIC 6-72, Change 1

- Pumps
- Tank
- Piping, heads
- Foam tested

Boilers:

☐ Auxiliary boilers

MSM Ch. 6.H
46 CFR 52.01-2
46 CFR 52.01-35

- Combustion chambers
- Refractory
- Casing and insulation

46 CFR 52.15-5

- Tubes and shells
- Piping
- Uptakes
- Foundations
- Gauges

Notes: _____

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☐ Periodic test and inspection of boilers in accordance with 46 CFR Table 61.05-10

Boiler ID Number	Date Hydrostatically Tested	Date Mountings Opened	Date Mountings Removed and Studs Examined	*Fireside*	*Waterside*	*External*

☐ Boiler safety valves — 46 CFR 52.01-120(a)

☐ Fusible plugs — 46 CFR 52.01-50; 46 CFR Table 61.05-10; MSM Vol. IV Ch. 3.I.3.b

Examined

Renewed at this inspection

☐ Fuel systems — 46 CFR 56.50-65

- Remote shutoff valves
- Reliefs and bypass valves
- Strainers
- Piping
- Fuel tanks
- Filling and venting
- Gauges

Auxiliary Machinery:

☐ Internal combustion engines — 46 CFR 58.10-10; ABS Rules

- Spark arrestor
- Controls
- Insulation
- Exhaust
- Cooling
- Fuel system

Notes:_____

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☐ Air compressor intakes prohibited in restricted areas — 46 CFR 32.35-15

☐ Electrical equipment

- Generators — 46 CFR 111.12
- Motors — 46 CFR 111.25
- Controllers — 46 CFR 111.70
- Switchboard — 46 CFR 111.30
- Lighting — 46 CFR 111.75
- Batteries and chargers — 46 CFR 111.15
- Wiring — 46 CFR 111.60
- Overcurrent protection — 46 CFR 111.50
- Grounding — 46 CFR 111.05
- Markings and instructions

☐ Pressure vessels hydrostatically tested or internally examined — 46 CFR 61.10, MSM Ch. 6.Q, MSM Vol. IV Ch. 3.I.7

Service	MAWP	Date Tested or Examined Internally	Relief Valve Tested
			☐
			☐
			☐
			☐

☐ Relief valves springs set within range — 46 CFR 54.15-10(g)

☐ Bilge system — 46 CFR 32.52, 46 CFR 96.03-1, 46 CFR 56.50-55(b)

Notes:_____

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Pollution Prevention:

NOTE: *Guidance for inspecting pollution prevention items is detailed in MSM Volume II, Chapter 31.*

☐	Pollution placard posted	33 CFR 155.450
☐	Person-in-charge designation	33 CFR 155.700 33 CFR 155.820
☐	Fuel oil containment • Portable • Fixed	33 CFR 155.320
☐	Fuel tank vents • Flame screens • Closures	46 CFR 56.50-85
☐	Deck lighting	33 CFR 155.790
☐	Oily waste retention • Bilge • Tank	33 CFR 157.17
☐	Ballast discharge • Acceptable processing equipment	33 CFR 155.330 33 CFR 155.350 33 CFR 155.360 33 CFR 155.370
☐	Oily bilge discharge • Piping system • Stop valve • Standard discharge connection • Pump stop	33 CFR 155.430
☐	Prohibited oil spaces	33 CFR 155.470
☐	Emergency shutdown	33 CFR 155.780 46 CFR 32.50-35

Notes:_____

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☐	Discharge removal equipment • Sorbents • Non-sparking tools • Containers • Emulsifiers • Protective clothing • Scupper plugs • Non-sparking portable pump	33 CFR 155.210 33 CFR 155.215
☐	Emergency towing equipment (offshore oil)	33 CFR 155.230
☐	Emergency lightering equipment (barges > 5000 GT)	33 CFR 157.410
☐	Garbage • Shipboard garbage properly disposed (oceangoing manned barges only)	33 CFR 151.63 MARPOL Ax. V/3
☐	MARPOL Annex I survey • Discharge of cargo residue • Approved monitoring and control system	33 CFR 151.09
☐	MARPOL Annex II survey • Discharge of cargo residue • Approved monitoring and control system	33 CFR 151.30
☐	Barges that ballast cargo tanks	33 CFR Part 157
	• Pumping, piping, and discharge arrangements	33 CFR 157.11
	• Designated observation area	33 CFR 157.13
	• Slop tank	33 CFR 157.15
	• Cargo and ballast information	33 CFR 157.23
	• Instruction manual	33 CFR 157.49

Notes: _____

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Marine Sanitation Devices:

NOTE: *Guidance for inspecting marine sanitation devices is detailed in MSM Volume II, Chapter 18.K.*

☐	Marine sanitation device	33 CFR 159.55 MSM Ch. 31.F
	Type I	
	Type II	
	Type III	
☐	Certified for inspected vessels	MSM Ch. 31.F.4
☐	Capacity satisfactory	MSM Ch. 18.K.7.d
☐	Installation	33 CFR 159.57 MSM Vol. IV Ch. 3.K.1
	• Operation	
	• Ventilation	
	• Wiring and piping	
	• Maintenance	
	• Placard posted	33 CFR 159.59
	• Safety	
	• Accessibility to parts requiring routine servicing	
	• Manufacturer's instructions available	

Notes:_____

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Section 4: Drydock Inspection Items

NOTE: *Barges that undergo an underwater survey in lieu of a drydock examination should be inspected using the guidance and checklist found in the CG-840 DD book.*

Certificates and Documents:

☐ Marine Chemist Certificate

- Marine Chemist No. _____
- Certificate No. _____
- Date issued _____

46 CFR 35.01-1
MSM Ch. 5.I
NFPA 306

☐ Gauging report

- Date issued _____
- Vessel over 30 years

46 CFR 31.10-21(a)
ABS Steel Rules 1/3

External Structural Examination:

NOTE: *Request records of Outstanding Conditions of Class. (Form or format may vary depending on classification society.) Conditions of Class may identify structural defects, wastage, etc.*

☐ Vessel plans available
(barges with load lines)

46 CFR 31.10-22
46 CFR 91.40-5

☐ External structural members

- Plating
- Caulking
- Reinforcing straps
- Rakes
- Welds
- Pitting
- Rub bars

46 CFR 31.10-21
46 CFR 91.40-3
NVIC 7-68

Overall Steel Wastage:

Poor	Good

Areas of particular interest: _____

_____

_____

_____

_____

_____

☐ Hull and/or structural members gauged for material thickness

46 CFR 31.10-21(a)
ABS Steel Rules 1/3

Yes (attach gauging report)

- O Transverse belt of deck plating
- O Transverse belt of bottom and sideshell
- O Wind-and-water strakes
- O Keel plates
- O Bulkhead plating and stiffeners
- O Suspect areas
- O Other _____

No

☐ Vessel carefully examined for fractures and previous fracture repairs

MSM Ch. 8.B.6.d
NVIC 15-91, Change 1

☐ Fastenings

- Rivets
- Welding

MSM Vol. IV Ch. 6.H
NVIC 3-68

☐ Cargo hatches

- Dogs or other securing appliances
- Covers
- Gaskets
- Coamings

MSM Ch. 6.F.5
MSM Vol. IV Ch. 6.I.5

☐ Rudder(s) / skeg(s)

MSM Ch. 8.E
ABS Rules

☐ Draft marks and load lines

- Proper locations
- Legibly inscribed
- Proper spacing and size
- Load line markings verified

46 CFR 32.05
46 CFR 97.40-10
MSM Ch. 6.F.4

☐ Compartment or inner bottom drains
(drydocking plugs secured)

Notes:_____

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Internal Structural Examination:

☐ Internal structural members

- Bulkheads
- Decks
- Tank tops
- Longitudinals
- Floors
- Frames
- Intercostals
- Stiffeners
- Beams
- Connections

46 CFR 31.10-21
46 CFR 91.40-3
MSM Ch. 8.B.6
NVIC 7-68
NVIC 15-91, Change 1
46 CFR 42.09-30

☐ Vessel carefully examined for fractures and previous fracture repairs

MSM Ch. 8.B.6.d
NVIC 15-91, Change 1

☐ Fastenings

- Rivets
- Welding

MSM Vol. IV Ch. 6.H
NVIC 3-68

☐ Void / ballast tanks entered

_____ _____ _____
_____ _____ _____
_____ _____ _____
_____ _____ _____

Overall Condition of Coatings:

Poor	Good

N/A

Overall Steel Wastage:

Poor	Good

N/A

Notes:_____
_____
_____
_____
_____
_____

☐ Forward peak / rake

☐ Aft peak / rake

☐ Cargo tanks entered

46 CFR 31.10-21
46 CFR 91.40-3
MSM Ch. 8.B.4
MSM Ch. 8.B.6

_____ _____ _____
_____ _____ _____
_____ _____ _____
_____ _____ _____

Overall Condition of Coatings:

Poor	Good

N/A

Overall Steel Wastage:

Poor	Good

N/A

Valves and Through-Hull Fittings:

NOTE: *Guidance on valves and through-hull fittings is detailed in MSM Volume II, Chapter 8.F.*

☐ Sea chests, spool pieces, through-hull fittings

46 CFR 56.50-95

- Strainers removed
- Welds
- Baffles
- Strainer fastenings
- Fastenings
- Branch connections

Notes:_____

_____

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_____

☐ Sea valves

46 CFR 42.09-25
46 CFR 56.50-95

- Fitted where required
- Opened for examination
- Body
- Guides
- Threads
- Seat
- Stems
- Discs
- Plug cocks
- Holding down bolts
- Closure tested (local and/or remote)

Ground Tackle:

☐ Proper ground tackle

46 CFR 32.15-15
46 CFR 96.07-5
ABS Rules

- Anchor cables ranged
  - Yes
  - No
- Cable shackles and pins
- Anchors
- Hawse pipes and covers
- Chain pipes and covers
- Chain lockers

Notes:_____

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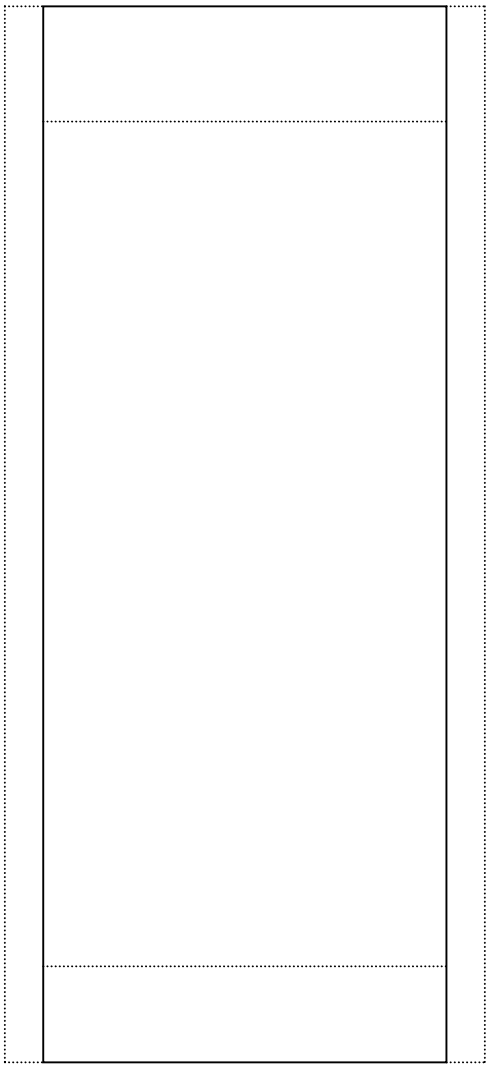
Section 5: Appendices

Vessel Layout:



- Double hull / bottom / sides
- Ballast tanks
- Chemical tank type: I II III

Recommended US Vessel Deficiency Procedures:

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1</td><td>Identify deficiency.</td></tr>
<tr><td>2</td><td>Inform vessel representative.</td></tr>
<tr><td>3</td><td>Record on the Deficiency Summary Worksheet (next page).</td></tr>
<tr><td>4</td><td>If deficiency is corrected prior to end of inspection, go to Step 7.</td></tr>
<tr><td>5</td><td>If deficiency is unable to be corrected prior to end of inspection, issue CG-835 in accordance with table below.
<table>
<tr><th>IF deficiency:</th><th>THEN issue CG-835:</th></tr>
<tr><td>Does NOT immediately impact crew/passenger safety, hull seaworthiness, or the environment, e.g.,
• Missing placards</td><td>That provides a specific time for correcting deficiency, e.g.,
• “X” number of days</td></tr>
<tr><td>Allows vessel operations to be MODIFIED to meet less stringent requirements, e.g.,
• P/V valves fail to seal properly</td><td>That restricts operation of vessel to meet current vessel conditions, e.g.,
• Reduced cargo grade</td></tr>
<tr><td>DOES immediately impact crew/passenger safety, hull seaworthiness, or the environment, and cannot be modified to meet less stringent requirements, e.g.,
• Structural defect or damage</td><td>That requires the deficiency to be corrected prior to operating vessel (“NO SAIL” item), e.g.,
• Prior to carrying cargo</td></tr>
</table></td></tr>
<tr><td>6</td><td>Enter CG-835 data in MIDR.</td></tr>
<tr><td>7</td><td>Enter deficiency data in MSDS.</td></tr>
<tr><td>8</td><td>Initiate Report of Violation (ROV) if necessary.</td></tr>
</table>

Deficiency Summary Worksheet:

Name of Vessel **VIN**

Deficiency	MSIS Code	Req't. Issued / Date Completed

Deficiency	MSIS Code	Req't. Issued / Date Completed

Deficiencies identified should be listed with MSIS codes. At completion of inspection/examination, any outstanding deficiencies shall be entered in MIDR or PSDR as appropriate. All deficiencies found (outstanding and completed) shall be entered in the Deficiency Summary. Worklist items, which serve only as memory joggers to complete inspection/examination (e.g., test emergency fire pump), should not be coded as deficiencies.

MSIS Codes for Deficiencies:

BS	Ballast	**DC**	Dry Cargo	**IC**	I/C Engine
BI	Bilge	**ES**	Electrical	**LS**	Lifesaving
BA	Boiler, Aux.	**FF**	Firefighting	**MI**	Miscellaneous
BM	Boiler, Main	**FL**	Fuel	**NS**	Navigation
CS	Cargo	**GS**	General Safety	**PP**	Propulsion
DM	Deck Machinery	**HA**	Habitation	**SS**	Steering
DL	Doc., Lics., Pmts.	**HU**	Hull		

Notes:

Notes:

Conversions:

Distance and Energy				
Kilowatts (kW)	X	1.341	=	Horsepower (hp)
Feet (ft)	X	3.281	=	Meters (m)
Long Ton (LT)	X	.98421	=	Metric Ton (t)

Liquid ***(NOTE:*** *Values are approximate.)*

Liquid	bbl/LT	m^3/t	bbl/m^3	bbl/t
Freshwater	6.40	1.00	6.29	6.29
Saltwater	6.24	.975	6.13	5.98
Heavy Oil	6.77	1.06	6.66	7.06
DFM	6.60	1.19	7.48	8.91
Lube Oil	7.66	1.20	7.54	9.05

Weight

1 Long Ton	=	2240 lbs	1 Metric Ton	=	2204 lbs
1 Short Ton	=	2000 lbs	1 Cubic Foot	=	7.48 gal
1 Barrel (oil)	=	5.61 ft = 42 gal = 6.29 m^3	1 psi	=	.06895 Bar = 2.3106 ft of water

Temperature: Fahrenheit = Celsius (°F = 9/5 °C + 32 and °C = 5/9 (°F – 32))

0	=	-17.8	80	=	26.7	200	=	93.3
32	=	0	90	=	32.2	250	=	121.1
40	=	4.4	100	=	37.8	300	=	148.9
50	=	10.0	110	=	43.3	400	=	204.4
60	=	15.6	120	=	48.9	500	=	260
70	=	21.1	150	=	65.6	1000	=	537.8

Pressure: Bars = Pounds per square inch

1 Bar	=	14.5 psi	5 Bars	=	72.5 psi	9 Bars	=	130.5 psi
2 bars	=	29.0 psi	6 Bars	=	87.0 psi	10 Bars	=	145.0 psi
3 Bars	=	43.5 psi	7 Bars	=	101.5 psi			
4 Bars	=	58.0 psi	8 Bars	=	116.0 psi			